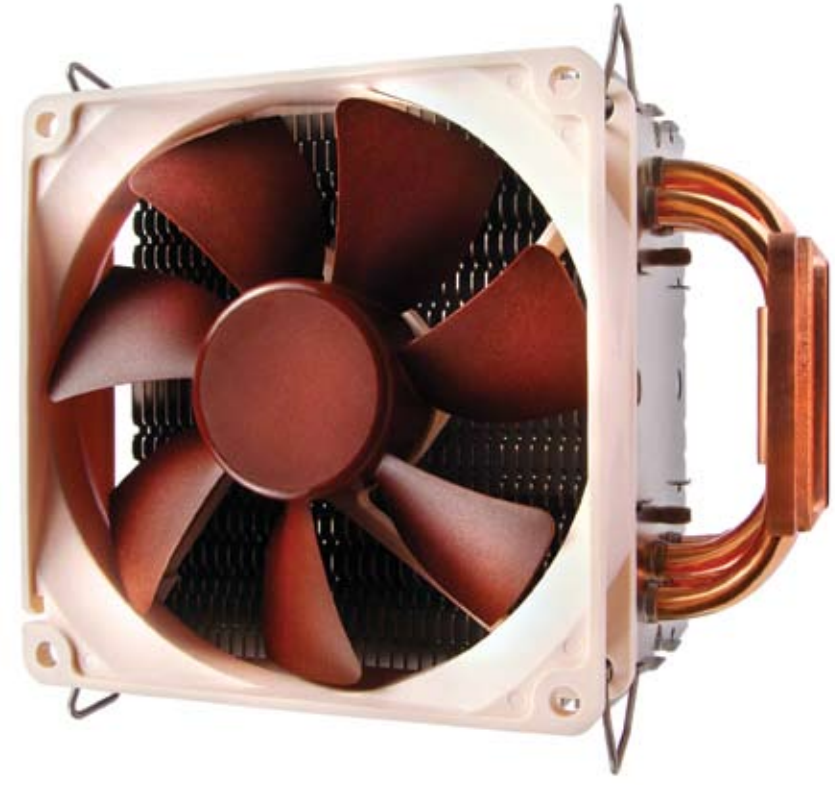
Build Your Own

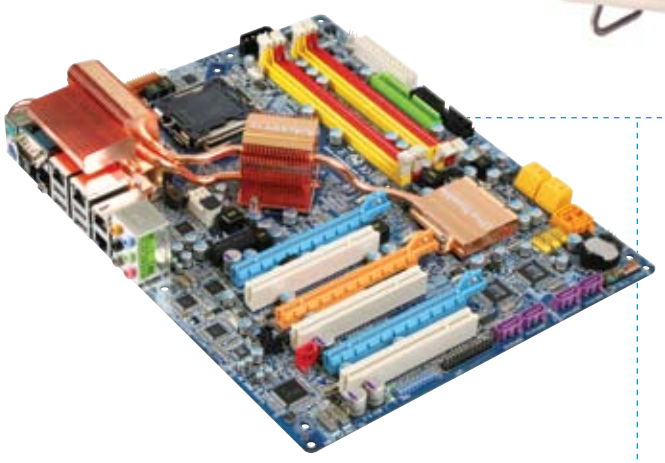
NEW PRODUCTS & TIPS FOR BUILDING A CUSTOM PC

BY JOHN A. BUREK

The sound of cool

The Austrian-designed **Noctua NH-U9F** promises to keep your CPU at remarkably low noise levels—as low as 7dB, the company claims. It's helped by its Ultra Low Noise adapter and the fan's oil-pressure bearing. This $49.90 cooler is compatible with LGA775 and Socket 754, 939, 940, and AM2 motherboards. You can install its 92mm fan turned 90 degrees to avoid physical interference with motherboard heat sinks or other components, and even mount a second fan, if you like. *Noctua, www.noctua.at*



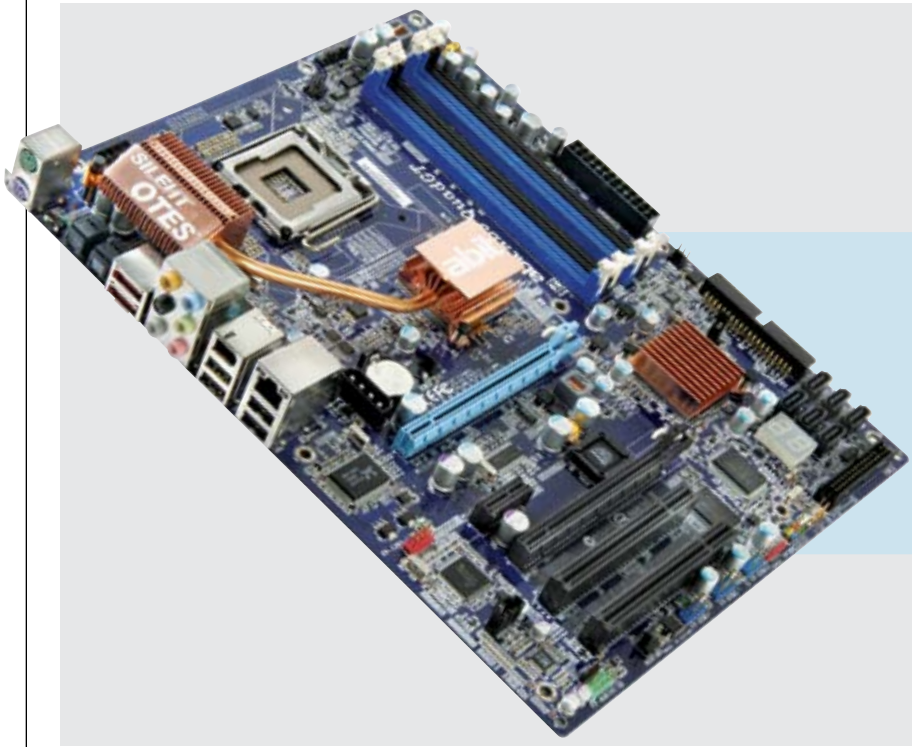


Two-by-four foundation

Harness the power of four cores—and two nVidia GPUs—with the $289 **Gigabyte GA-N680SLI-DQ6** motherboard. Designed to work with the latest Intel quad-core processors (with support for up to a 1,333MHz front-side bus) and based on the nForce 680i SLI MCP chipset, this board provides two PCI Express x16 slots for dual-card Scalable Link Interface (SLI) at true x16 bandwidth, plus a third x16 slot (x8 bandwidth) for a physics-acceleration card. Support for nVidia's LinkBoost technology enhances performance even further with compliant nVidia GPUs. Also, Gigabyte's innovative QuadBIOS feature stores copies of the PC BIOS in multiple locations for safety. *Gigabyte Technology, www.gigabyte-usa.com*

Front-panel finery

Airlift in gratuitous front-panel bling by the 747-load with the $74.99 **PowerWatch** from AeroCool.US. This titanic drive-bay device eats two bays and provides a striking visual display of case temperature (at four locations, detected by wired sensors), case-fan spin rates, and a user-set threshold temperature at which a warning alarm will sound. Flash-memory-card slots along the left side support practically every format in creation (25 in all), and you also get four powered USB 2.0 ports. (These require special cables that are sold separately, however.) The bezel comes in a choice of black or silver. *AeroCool.US, www.aerocool.us*



Hard-core board

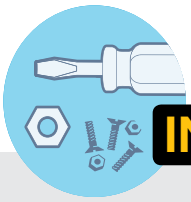
The **Abit AB9 QuadGT** is ready for Intel's quad-core processors—and a whole lot more. This $219.99 LGA775 motherboard, based on the Intel 965 chipset, is built using long-life solid-state capacitors and features a host of uncommon extras, including a rear-panel CMOS-reset switch, two external Serial ATA (eSATA) ports, and fanless, silent heat-pipe cooling for its onboard components. The two PCI Express x16 slots support a CrossFire dual-card arrangement. (Note: The second slot provides only x4 bandwidth.) Plus, serious home theater-ites may be drawn to the board's High-Definition Multimedia Interface (HDMI) audio header, which works with a compatible graphics card to let you output true high-definition audio and video. *Universal Abit U.S.A., www.abit-usa.com*

A house for your cards

Two fire-breathing high-end video boards invading your PC's case tend to send temperatures skyward—but not if your case is ready for them. The $299 **Cooler Master CM Stacker 830 nVidia Edition** is the first PC enclosure specially certified by nVidia for use in an SLI arrangement with two GeForce 8800 GTX cards. With nine 5.25-inch drive bays and room for up to nine 120mm fans, expansion room and cooling should be nonissues. (Fan noise might be another matter.) This aluminum abode is compatible with ATX and BTX motherboards, plus several of their subtypes. *Cooler Master, www.coolermaster-usa.com*

Radiators for your RAM

Run-of-the-mill RAM coolers are simple metal sheaths that fit over a RAM module to wick away heat. Thermalright advances that design with its **HR-07 Memory Module Cooler**, which employs twin elevated fin assemblies to shunt heat away from your hardworking memory chips. Slip on a pair side by side, and you can even mount a cooling fan on top. But be warned: The width of these $24.99 coolers will likely block adjacent DIMM slots. Only extreme overclockers or deep-pocketed modders need apply. *Thermalright, www. thermalright.com*



INSTALL IT NOW

ATX Motherboard

1 **PREP WORK.** Some major-maker PCs use proprietary designs, so check your case and power supply (PSU) for ATX compatibility first.

If you're upgrading a motherboard—not building a new PC—you should reinstall your OS with it. Back up critical files and settings, and gather OS discs before starting. Backups complete, fetch pliers, screwdrivers, and Post-It Notes. Unplug your PC, detach external cabling, and open the case, touching its frame to dispel static.

2 **MOBO MOVIN' OUT.** Detach all cables from the motherboard. To ease replugging them on the new board, as you detach each, wrap it in a Post-It, notating the cable's terminus. Note: To remove the main power connector(s) leading from PSU to motherboard, squeeze first—don't yank.

Fine wires run from the power switch, speaker, and LEDs to a cluster, or "header," of pins on the motherboard. Unplug these, sketching the pins' layout and which wires correspond to them. Also label and detach header cables for front-panel USB, audio, or FireWire ports.

Next, unscrew and pull expansion cards from your motherboard. (A graphics card may have a slot latch to disengage first.) Label/detach any wires leading to cards. The board should now be untethered. Remove the motherboard tray, if the case uses one. Then unscrew the board from the tray or case bottom.

3 **MOUNT IT.** Check the installed brass mounts ("standoffs") against the new board's mounting holes. Add standoffs as needed with pliers; remove extras.

The new mobo includes a rectangular panel with port cutaways. Compare it to your case's. If they differ, pop in the new one. To mount the new board, wiggle its ports through this panel. Then screw it down—mounting holes should align with standoffs. (If your case uses a motherboard tray, you may need to tweak this sequence.)

Motherboard in place, install the CPU and its cooler per their instructions. Use thermal paste, and plug the fan's power cable into the "CPU fan" header. Then press your RAM into the DIMM slots, and reinsert the graphics card (if any). Install other cards only after the OS is restored.

4 **REWIRING JOB.** The toughest task: hooking up front-panel ports, LEDs, and switches. Consult your sketches and the motherboard manual to match the wires for the power switch, activity LEDs, USB/FireWire ports, and other components to their headers.

Next, attach your drives' data cables to the board's IDE or Serial ATA ports. Also reconnect the motherboard's power connectors (check your Post-It Notes) and any untethered case fans. For fans with three-pin connectors, use "chassis fan" headers.

5 **LAUNCH-READY.** Reattach input devices and monitor, and boot with your OS disc in the optical drive. Watch for stray cables obstructing fans, and check that the CPU fan is spinning. (If all's well, before next reboot, replace the cover.) In the BIOS, direct the PC to boot from the optical drive. Reboot, then reinstall your OS, and later, your apps, programs, and settings.